

WHAT IS CLAIMED IS:

1. A rotatable plug for connecting to an electronic receptacle, applied in an electronic equipment, comprising:
  - a plug for plugging into said electronic receptacle and fixing and electrically connecting to at least two conductive wires;
  - a rotary case for disposing said plug;
  - a top cover having a circle opening and an annular frame, wherein said annular frame is disposed around said opening for accommodating said rotary case therein to rotate and said plug is carried to rotate when said rotary case is rotated; and
  - a restricting mechanism for limiting said rotary case to rotate in a particular rotating range.
2. The rotatable plug according to claim 1 wherein said electronic equipment is one of an adapter and a battery charger.
3. The rotatable plug according to claim 1 wherein said plug is one of a fixed plug and a foldable plug.
4. The rotatable plug according to claim 3 wherein said foldable plug comprises:
  - a transverse rod having a first and a second grooves and having two ends for pivotally connected to said rotary case;
  - at least two blades for plugging into said electronic receptacle; and
  - at least two conductive terminals fixed and electrically connected to said at least two conductive wires respectively,

wherein each said blade and each said conductive terminal are disposed at two opposite sides of said transverse rod to form a particular angle.
5. The rotatable plug according to claim 4 wherein each said blade and

each said conductive terminal are integrally formed.

6. The rotatable plug according to claim 4 wherein said transverse rod, said first groove and said second groove are integrally formed.
7. The rotatable plug according to claim 4 wherein said rotary case includes a concave storage base on a front surface having an opening disposed at one end of said concave storage base for disposing said plug therein and used for receiving said at least two blades therein when said plug is folded; and  
an elastic engaging element having a first end fixed and connected to a back of said rotary case and a second end for engaging said transverse rod of said plug to slide between said first and second grooves of said transverse rod.
8. The rotatable plug according to claim 7 wherein said rotary case, said concave storage base, said elastic engaging element and said opening are integrally formed.
9. The rotatable plug according to claim 1 wherein said circle opening has a diameter smaller than an inside diameter of said annular frame and said rotary case has a diameter smaller than said inside diameter of said annular frame.
10. The rotatable plug according to claim 9 wherein said rotary case includes an annular groove surrounded a circumferential surface of said rotary case and said annular frame of said top cover has a protruding element at a relative position of said annular groove for engaging to said annular groove.
11. The rotatable plug according to claim 10 wherein said protruding element is an annular protrusion.
12. The rotatable plug according to claim 11 wherein said annular groove

includes a plurality of position points and said annular protrusion includes a plurality of position units for engaging with said plural position points for positioning a direction of said plug.

13. The rotatable plug according to claim 12 wherein each said position point is a concave point and each said position unit is an elastic jut, wherein said elastic juts have a relative position with said concave points for engaging with said elastic juts respectively.

14. The rotatable plug according to claim 13 wherein said restricting mechanism comprises:

a first protrusion disposed on a circumferential surface of said rotary case and between two said position points; and

a second protrusion disposed on an inside wall of said annular frame and between said two elastic juts,

whereby when said rotary case rotates in a first direction till said first protrusion is against said second protrusion, a rotation of said rotary case in said first direction is limited.

15. The rotatable plug according to claim 14 wherein said top cover, said annular frame, said protruding element and said second protrusion are integrally formed.

16. The rotatable plug according to claim 14 wherein said rotary case, said annular groove, said plural concave points and said first protrusion are integrally formed.

17. The rotatable plug according to claim 9 wherein said rotary case has a particular thickness and said annular frame further comprises a stopper for allowing said rotary case to rotate in said annular frame.

18. The rotatable plug according to claim 17 wherein said annular groove includes a plurality of position points for positioning a direction of said

plug.

19. The rotatable plug according to claim 18 wherein each said position point is a concave point and each said position unit is an elastic jut, wherein said elastic juts have a relative position with said concave points for engaging with said elastic juts respectively.
20. The rotatable plug according to claim 1 wherein said restricting mechanism comprises:
  - a first protrusion disposed on a circumferential surface of said rotary case; and
  - a second protrusion disposed on an inside wall of said annular frame, whereby when said rotary case rotates in a first direction till said first protrusion is against said second protrusion, a rotation of said rotary case in said first direction is limited.
21. The rotatable plug according to claim 20 wherein said top cover, said annular frame and said second protrusion are integrally formed.
22. The rotatable plug according to claim 20 wherein said rotary case and said first protrusion are integrally formed.
23. A rotatable plug for connecting to an electronic receptacle, applied in an electronic equipment, comprising:
  - a plug for plugging into said electronic receptacle and fixing and electrically connecting to at least two conductive wires;
  - a rotary case for disposing said plug; and
  - a top cover having a circle opening and an annular frame, wherein said annular frame is disposed around said opening for accommodating said rotary case therein to rotate and said plug is carried to rotate when said rotary case is rotated.
24. The rotatable plug according to claim 23 further comprising a

restricting mechanism for limiting said rotary case to rotate in a particular rotating range, said restricting mechanism including:

a first protrusion disposed on a circumferential surface of said rotary case; and

a second protrusion disposed on an inside wall of said annular frame, whereby when said rotary case rotates in a first direction till said first protrusion is against said second protrusion, a rotation of said rotary case in said first direction is limited.